

Amendments to Claims

1. (Currently Amended) Process for producing fluorinated polymers ~~by miniemulsion polymerization~~ in two stages comprising

a) emulsification of a mixture of monomers comprising:

from 20 to 99.9% by weight of at least one ~~monomer selected from~~ fluorinated (meth)acrylic monomer ~~monomers~~ (A),

from 0.1 to 15% by weight of at least one ~~monomer selected from~~ acrylamide and its compounds, including N-methyloacrylamide, and

from 0 to 65% by weight of at least one ~~monomer selected from~~ nonfluorinated acrylic or vinyl monomers (B), and

from 0.1% to 15% by weight of at least one polar monomer (C),

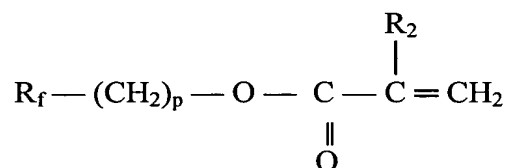
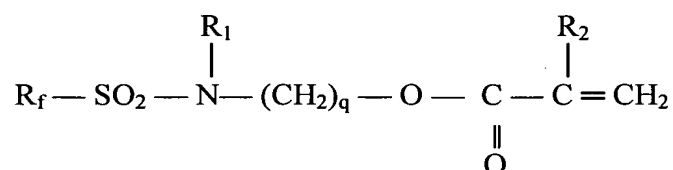
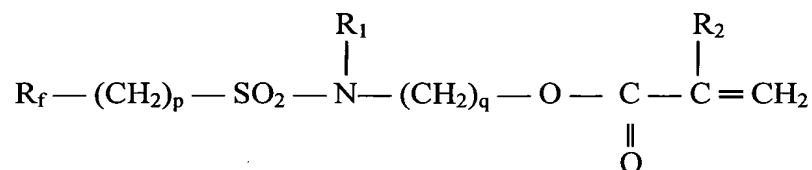
using energetic emulsifying treatment, including ultrasound, colloid mill or high-pressure homogenizer to yield fine mixture droplets having a mean diameter of 50-500nm, and

b) polymerization of the said mixture at a temperature ranging from 20 to 100° C using radical initiators,

the level of organic cosolvent being less than 0/2% by weight of the total weight of the emulsion, and the level of coagulum being less than 1% by weight of the total weight of monomers.

2. (Currently Amended) Process according to Claim 1 wherein the mixture of monomers is stabilized by at least one surfactant selected from the group consisting of ~~comprising~~ nonionic, anionic, and ~~or~~ cationic surfactants; ~~including polyethoxylated sulphasuccinate compounds or quaternary ammonium compounds.~~

3. (Currently Amended) Process according to Claim 1, wherein the fluorinated monomer A is selected from the group consisting of comprising the monomers corresponding to the following formulae:



in which R_f represents a perfluorinated radical with a linear or branched chain comprising 2 to 20 carbon atoms, p and q , which are identical or different, each represent an integer ranging from 1 to 20, R_1 represents a linear or branched alkyl radical comprising from 1 to 4 carbon atoms and R_2 represents a hydrogen atom or a methyl radical.

4. (Currently Amended) Process according to claim 1, wherein the monomer B is selected from the group consisting of comprising: C_1 - C_{22} alkyl acrylates, C_1 - C_{22} alkyl (meth)acrylates, acrylates and (meth)acrylates the radical of which carries an oxyethylenated linkage, and vinyl monomers.

~~_____ C₄-C₂₂ alkyl (meth)acrylates~~

~~_____ (meth)acrylates, the radical of which carries an oxyethylenated linkage~~

~~_____ vinyl monomers, including vinyl chloride or vinyl acetate~~

~~_____ acrylic and methacrylic acids.~~

5. (Currently Amended) Process according to claim 1, wherein the initiator is selected from the group consisting of comprising: peroxides, persalts, and azo compounds.

~~_____ peroxides~~

~~_____ persalts, including persulphates~~

~~_____ azo compounds, such as 4,4'-azobis(4-cyanopentanoic acid).~~

6. (Previously presented) Aqueous dispersion of fluorinated polymers obtained according to the process of claim 1, the content of organic cosolvent of which is less than 0.2% by weight of the total weight of the emulsion and the level of coagulum being less than 1% by weight of the total weight of the monomers.

7. (Currently Amended) Hydrophobic and oleophobic treatment of substrates comprising treatment of, leather, textiles, fitted carpets, paper and construction materials with an aqueous dispersion of the polymer of claim 6.

8. (Previously presented) Process according to claim 3 wherein the integer is from 1 to 4.

9. (New) Process according to claim 1 wherein the polar monomer (C) is selected from the group consisting of acrylic acid, (meth)acrylic acid, acrylate carrying a sulphonic acid or hydroxy group, (Meth)acrylate carrying a sulphonic acid or hydroxy group, N,N-dimethylaminoethyl acrylates, N,N-

dimethylaminoethyl (meth)acrylates, N-tert-butylaminoethyl acrylate and N-tert-butylaminoethyl (meth)acrylates.

10. (New) Process according to claim 2 wherein the surfactant is selected from the group consisting of sulphosuccinate compounds or quaternary ammonium compounds.

11. (New) Process according to claim 5 wherein the initiator is selected from the group consisting of persulphates and 4,4'-azobis(4-cyanopentanoic acid).

12. (New) Process according to claim 1 further comprising a crosslinking agent.